

**A NEW NORTH AMERICAN CHRYSIDID GENUS AND
REDESCRIPTION OF THE GENUS *PSEUDOLOPYGA*
KROMBEIN (ELAMPINAE, HYMENOPTERA)**

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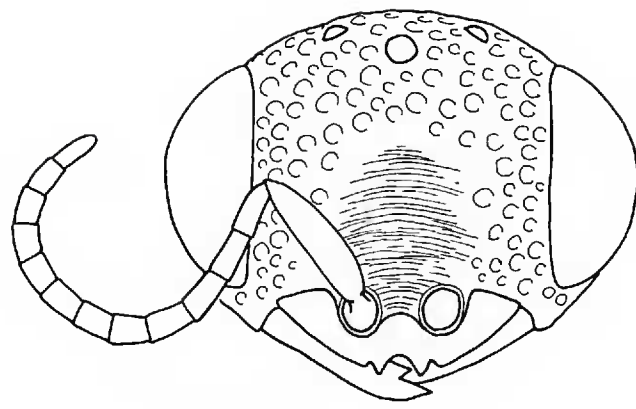
The genera *Minymischa* and *Pseudolopyga* are tiny desert dwelling chrysidids. They are typical members of the Elampinae based on the three exposed terga; reduced wing venation, with a short radial sector and absent cubital and discoidal cells, and tarsal claws with one or more subsidiary teeth. Both genera are closely related to *Holopyga* having similar tarsal claw dentition and facial sculpture. Females can be recognized by the apical v-shaped swelling of sternum III. In males sternum III is flat. The structure of the female tarsomeres of *Minymischa* superficially resemble those of *Muesebeckidium* (also a close relative of *Holopyga*). Abbreviations used are: RS for radial sector, and F-I, II and X for flagellomeres.

Minymischa can be identified using the key to the North American chrysidid genera (Bohart and Kimsey, 1980). Material that runs out to *Pseudolopyga* in that key should then be run through the first couplet in the following key.

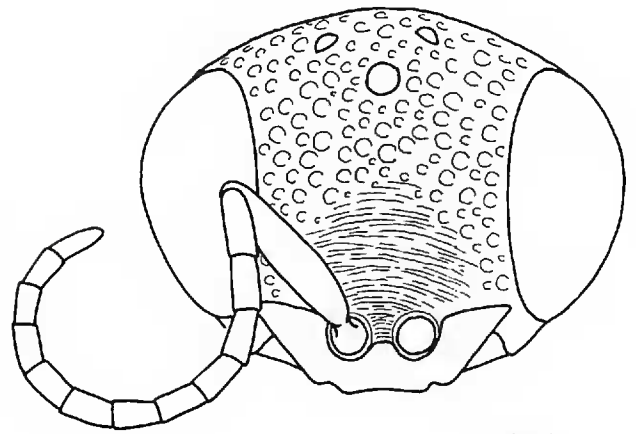
I would like to thank Drs. R. M. Bohart and K. V. Krombein for their help and F. D. Parker for providing specimens and host records. Specimens were seen from the following institutions: U.S. National Museum (USNM), University of California at Davis (UCD) and Berkeley (UCB), California Department of Food and Agriculture and Utah State University at Logan.

Key to the Species of *Pseudolopyga* and *Minymischa*

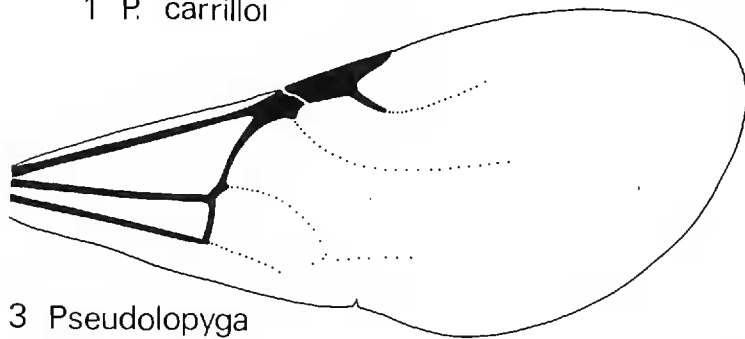
1. RS stub about half as long as medial vein (Fig. 3); female fore and midtarsi not laterally expanded and flattened (Figs. 10, 11); male hindtarsal claws apically tridentate (Fig. 9)
..... *Pseudolopyga* Krombein 2
- RS stub one-fifth or less as long as medial vein (Fig. 4); female fore and midtarsi laterally expanded and flattened, appearing prehensile (Figs. 6, 7); male hindtarsal claws apically bidentate (Fig. 5)
..... *Minymischa* Kimsey 3
2. Clypeal apex strongly emarginate (Fig. 1); mesopleural face with large circular punctures, little or no microstriae
..... *P. carrilloi* (Bohart & Brumley)



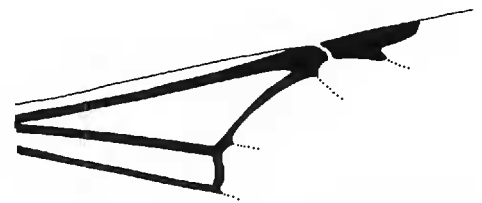
1 *P. carrilloi*



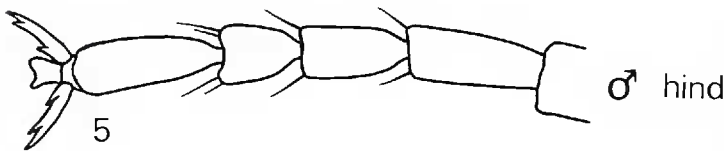
2 *P. taylori*



3 *Pseudolopyga*

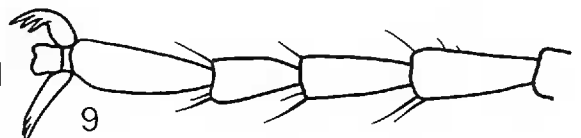


4 *Minymischa*

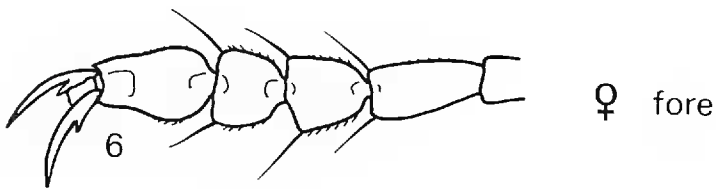


5

♂ hind



9

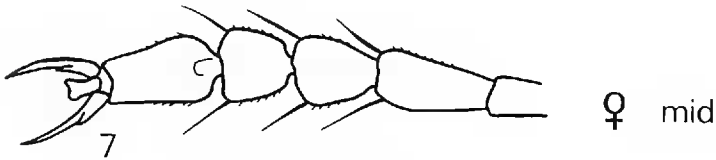


6

♀ fore



10

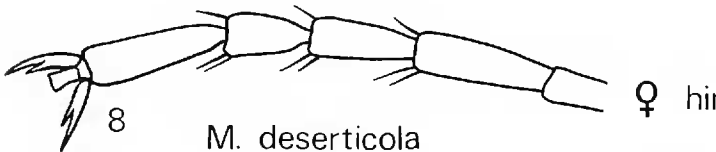


7

♀ mid

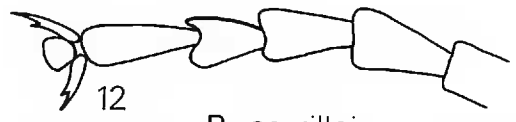


11



8

M. deserticola



12

P. carrilloi

Figs. 1-12. Figs. 1-2. Front view of face of male *Pseudolopyga*. Figs. 3-4. Forewings. Figs. 5-12. Tarsi. 5-8. *Minymischa*. 9-12. *Pseudolopyga*.

Clypeal apex not emarginate (Fig. 2); mesopleural face without discrete large circular punctures, covered with microstriae

..... *P. taylori* (Bodenstein)

3. F-II longer than wide and terga brassy to bright green, in strong contrast with rest of body

..... *M. deserticola* Kimsey

- F-II about as long as wide or wider and terga black, dark blue or purple not contrasting with rest of body 4
4. F-X as long as wide or wider; forewing without brown stained vein remnants *M. arenicola* Kimsey
- F-X longer than wide; forewing with brown stained vein remnants *M. ventura* Kimsey

Minymischa, new genus

Type-species.—*Minymischa arenicola* new species.

Generic diagnosis.—Forewing with RS stub one-fifth or less as long as medial vein (Fig. 4); female fore and midtarsi laterally expanded and flattened (Figs. 6, 7); hindtarsal claws bidentate (Figs. 5, 8); volsella undivided into digitus and cuspis, less than five times as long as broad and with stout spine-like setae (Figs. 15–17).

Both *Minymischa* and *Pseudolopyga* are sympatric through the drier parts of the western United States. In a cursory examination they are easily confused, but can be immediately separated by the very short RS stub of *Minymischa*. No host is known for *Minymischa*. The name *Minymischa* refers to the “short stub” of the radial sector of the forewing.

Minymischa arenicola, new species (Fig. 15)

Holotype male.—Length 3 mm; entire head, thorax and abdomen dark metallic green; rest of body black; wings slightly brown tinted; pubescence sparse and pale; head and thorax with large shallow punctures becoming deeper and closer on propodeum and mesopleuron; tergal punctures much smaller, separated by one puncture diameter or less; malar space as long as pedicel; clypeal margin subtruncate; F-I and II very slightly longer than broad and little more than half as long as pedicel; F-X as broad as long; volsella 5.4 times as long as broad and 0.7 as long as paramere (Fig. 15).

Female.—Same as male except F-I length 0.6 pedicel length; F-II length 0.8 times width and 0.8 F-I length; F-X 1.2 times as broad as long.

Holotype male (UCD), 5 mi N Barstow, San Bernardino Co., California, May 13, 1979 (R. M. Bohart). *Paratypes*, 15 males and 38 females, from CALIFORNIA, San Diego Co.: Borrego Springs, Campo; Inyo Co.: Death Valley, Eureka Valley, Deep Springs, Darwin Falls; Riverside Co.: Thousand Palms, Gavilan; Napa Co.: Monticello Dam; Monterey Co.: Arroyo Seco; Imperial Co.: Glamis; San Bernardino Co.: Kelso, 5 mi N Barstow, Cronise Wash, Cajon Pass; Contra Costa Co.: Antioch; Los Angeles Co.: Claremont; NEVADA, Churchill Co.: 12 mi NE Stillwater; White Pine Co.: Dolly Varden Valley; Washoe Co.: Wadsworth; Lyon Co.: Fernley; Clark

Co.: 10 mi N Las Vegas; ARIZONA, Pima Co.: Sahuarita, 10 mi N Tucson; Cochise Co.: 7 mi SE Pierce. Additional specimens have been seen from Lynndyl and Hurricane, Utah; Mt. Milton, Lincoln Co., Oregon; 20 mi N Eltopia, Washington; 23 mi N Van Horn, and El Paso, Texas; Hollister and McCall, Idaho; and Green Mountain Reservoir, Summit Co., Colorado. Specimens were collected from March to July.

Systematics.—Found throughout the drier parts of the western United States, *arenicola* is the commonest species in *Minymischa*. Distinguishing characters are the dark color, weakly stained wings and F-II and X as broad or broader than long.

Minymischa deserticola, new species

(Figs. 5–8, 16)

Holotype male.—Length 3 mm; head, pronotum and thoracic pleura greenish blue, black on scutum, scutellum, propodeum and sterna I–III; terga dark with strong bronze to brass reflections; wings water clear; pubescence pale and sparse; head and thorax with medium, shallow punctures becoming larger and deeper on propodeum and mesopleuron; tergal punctures small and deep, separated by one or two puncture diameters; malar space subequal to pedicel length; clypeal margin subtruncate; F-I slightly longer than wide; F-II length 1.4 times width; F-X somewhat longer than wide; volsella 4.6 times as long as broad and 0.6 times as long as paramere (Fig. 16).

Female.—Same as male, except F-X as long as broad.

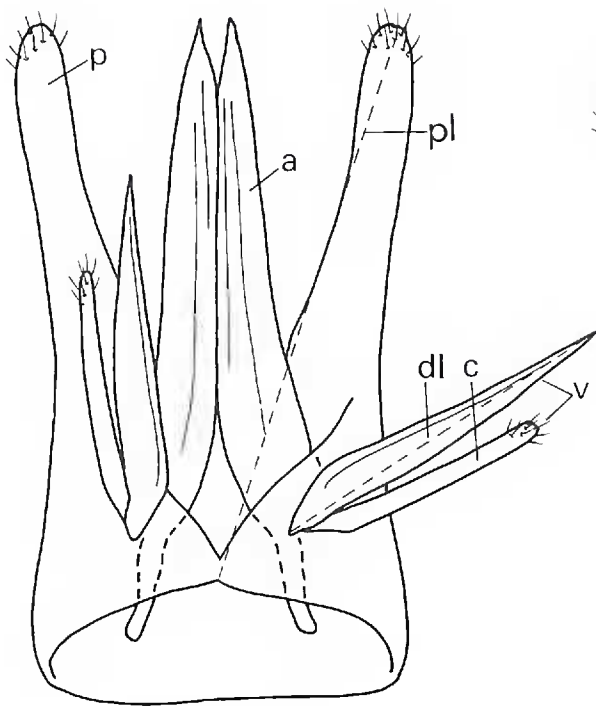
Holotype male (UCD), Borrego Springs, San Diego Co., California, March 30, 1960 (M. Wasbauer). *Paratypes*, 2 males and 12 females, from CALIFORNIA, Riverside Co.: Thousand Palms, 18 mi W Blythe; San Bernardino Co.: Kramer Junction; San Diego Co.: Borrego Springs, Split Mountain, N end Borrego Clark Lake; Imperial Co.: Fish Creek; ARIZONA, Yuma Co.: 5 mi W Dateland, McVay; NEVADA, Clark Co.: 10 mi N Las Vegas. Specimens were collected in March and April.

Systematics.—*Minymischa deserticola* is the most distinctive of these three species because of the highly colored terga that contrast with the thoracic color. Other distinguishing characteristics are F-II longer than wide, and F-I slightly longer than wide.

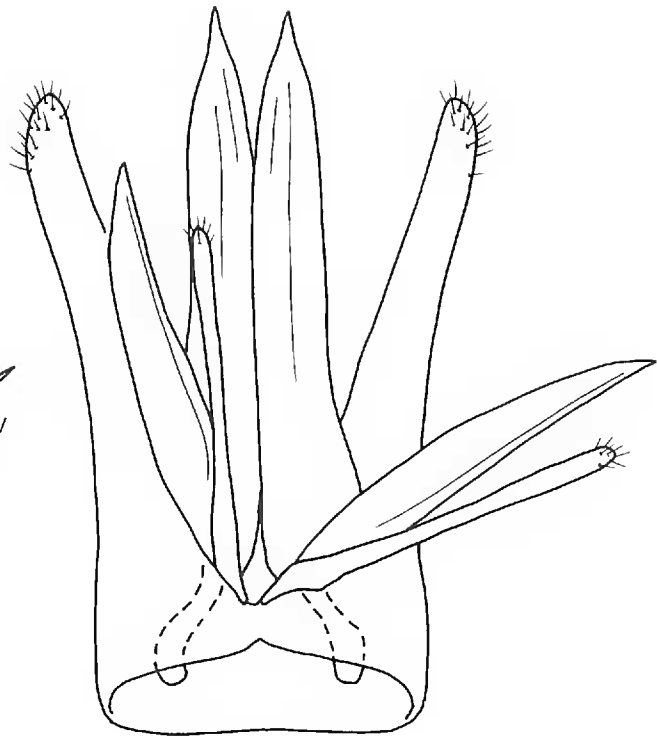
Minymischa ventura, new species

(Fig. 17)

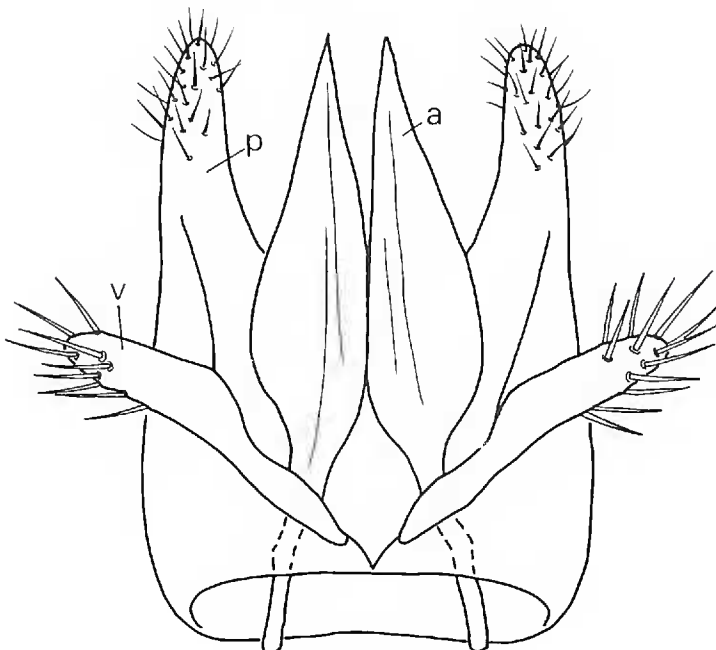
Holotype male.—Length 3.5 mm; head, thorax and terga, black with some greenish reflections and sterna dark brown; wings brown stained with darkly stained vein remnants; pubescence pale and scattered; head and thorax with irregular large to small punctures becoming deeper on propodeum; tergal



13 *P. carrilloi*



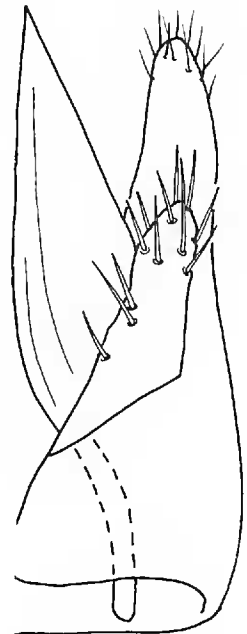
14 *P. taylori*



15 *M. arenicola*



16 *M. deserticola*



17 *M. ventura*

Figs. 13–17. Genital capsule, ventral view: aedeagus (a), cuspis (c), digitus length (dl), paramere (p), paramere length (pl), volsella (v). Figs. 13–14. *Pseudolopyga*. Figs. 15–17. *Minymischa*.

punctures small, deep and 0.5 to 1.0 puncture diameter apart; malar space 0.8 length of pedicel; clypeal margin subtruncate; F-I slightly longer than broad and 0.5 times as long as pedicel; F-II as long as broad, slightly shorter than F-I; F-X length 1.6 times width; volsella 3.5 times as long as broad and 0.5 times as long as paramere (Fig. 17).

Female.—Unknown.

Holotype male (UCD), Quatal Canyon, Ventura Co., California, April 29, 1968 (D. Veirs). *Paratype male*: Bend, Oregon, May 27, 1964 (K. Goeden).

Systematics.—*Minymischa ventura* can be distinguished by the dark color, stained vein remnants, F-II as long as broad and F-X longer than broad.

Pseudolopyga Krombein

Type-species.—*Pseudolopyga taylori* (Bodenstein).

Generic diagnosis.—Forewing RS stub one-half or more as long as medial vein (Fig. 3); female fore and midtarsi not laterally expanded and flattened (Figs. 10, 11); hindtarsal claws apically tridentate (males) or medially bidentate (females) (Figs. 9, 12); volsella divided into digitus and cuspis, cuspis length nine or more times breadth, with sparse hairlike setae apically (Figs. 13, 14).

Systematics.—*Pseudolopyga* Krombein (1969) contains two species, found only in the Nearctic region. Both species are small, less than 3 mm, dark and easily confused. *P. carrilloi* was synonymized with *taylori* by Krombein (1969). When I examined the holotypes, I found *carrilloi* to be a distinct species based on clypeal and integumental sculpture and male genitalia. The *Pseudolopyga* reported by Carrillo and Caltagirone (1970) as a parasite of *Solierella* is *carrilloi* and not *taylori*.

Pseudolopyga carrilloi (Bohart and Brumley)

(Figs. 1, 9–13)

Hedychridium carrilloi Bohart and Brumley 1967:232. Male holotype, Arbutuckle, Colusa Co., California, UCD.

Male holotype.—Length 2–3 mm. Head, thorax and abdomen black; tegula brown; wings brown-tinted; pubescence on body sparse and pale; punctures on head, pronotum, scutum and scutellum shallow and weakly defined with polished interspaces becoming larger, denser and well-defined on propodeum and mesopleuron, tergal punctures small, shallow and dense; malar space as long as pedicel; clypeal margin deeply notched apically (Fig. 1); F-I twice as long as broad and as long as pedicel; F-II shorter than F-I and 1.3 times as long as broad; F-X length 1.8 times breadth; volsella 0.6 times as long as paramere (Fig. 13).

Female.—As in male, except pedicel 1.4 times as long as F-I, F-I length 1.6 times breadth and F-X length subequal to breadth.

Distribution.—CALIFORNIA: Yolo, San Diego, Riverside, Colusa, Imperial, Inyo, San Luis Obispo, Kern, Contra Costa and San Bernardino counties; ARIZONA: Cochise, Maricopa, Pima, Pinal, Yavapai, Graham,

Gila and Coconino counties; IDAHO: Cassia County; TEXAS: Brewster County; NEVADA: Storey, Elko, Churchill and Washoe counties, and UTAH: Cache County. Specimens were collected from March through October. A total of 70 males and 49 females were seen.

Discussion.—*Pseudolopyga carrilloi* is found in dry areas west of the 100th meridian. It is reared in large numbers from twig nesting *Solierella* (Carrillo and Caltigirone, 1970 and Parker, pers. comm.). Superficially *carrilloi* resembles *taylori* but it can be immediately distinguished by the strongly notched clypeus and almost complete lack of microstriae on the gena and thorax. Specimens vary in color from brown (old specimens), to blackish, dark purple or blue-black, with slight bronze reflections in some.

Pseudolopyga taylori (Bodenstein)
(Figs. 2, 14)

Holopyga taylori Bodenstein 1939:11. Male holotype, Hollister, Idaho, USNM.

Holotype male.—Length 2.3 mm; head, thorax and abdomen dark brown with greenish highlights; tegula brown; wings brown tinted; pubescence on body sparse and pale; punctures shallow and dense on head becoming sparse on pronotum, scutum and scutellum, deeper and more well-defined on propodeum and anterior half of mesopleuron; gena, propleuron, posterior half of mesopleuron, metapleuron and lateral wall of propodeum microridged; tergal punctures small and shallow; malar space slightly shorter than pedicel; clypeal margin subtruncate apically (Fig. 2); F-I twice as long as broad and as long as pedicel; F-II shorter than F-I and length 1.3 times breadth; F-X 1.8 times as long as broad; digitus length 0.8 times length of paramere (Fig. 14).

Female.—As in male, except F-II length 1.4 times breadth and F-X length 1.4 times breadth.

Distribution.—CALIFORNIA: San Bernardino, Sierra, Yolo, San Diego, Inyo, Riverside and Contra Costa counties; IDAHO: Cassia County; ARIZONA: Yavapai and Cochise counties; NEVADA: Washoe County; collected in the months of March through August; 13 males and 11 females were seen.

Discussion.—Although not as common as *P. carrilloi*, *taylori* is found throughout the West in desert areas. It can be distinguished from *carrilloi* by the relatively straight apical margin of the clypeus and extensive microridges on the gena, mesopleuron and metapleuron. The host of *taylori* is unknown. Coloration is variable, from all black to dark purple or blackish with strong purple highlights, or even brown (old specimens).

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